

## CLAIMS

What is claimed is:

- 1           1.     An integrated circuit, comprising:  
2           at least one DC to DC converter for receiving a supply voltage and producing at  
3     least one intermediate voltage, at least one of said intermediate voltages having a  
4     greater voltage level than said supply voltage; and  
5           processing circuitry for receiving at least one time-varying input signal and  
6     modifying a parameter of said time-varying signal to produce a modified time-varying  
7     signal.
- 1           2.     The integrated circuit of claim 1, wherein said processing circuitry further  
2     receives said intermediate voltage having a greater voltage level than said supply  
3     voltage.
- 1           3.     The integrated circuit of claim 1, wherein said parameter is selected from  
2     the group consisting of a voltage level and a frequency.
- 1           4.     The integrated circuit of claim 1, wherein said modification is selected from  
2     the group consisting of increasing said parameter and decreasing said parameter.
- 1           5.     The integrated circuit of claim 1, wherein said processing circuitry  
2     comprises digital circuitry.

1           6.     The integrated circuit of claim 1, wherein said processing circuitry  
2 comprises analog circuitry.

1           7.     The integrated circuit of claim 1, wherein said processing circuitry  
2 comprises analog and digital circuitry.

1           8.     The integrated circuit of claim 1, wherein said time-varying input signal is a  
2 digital signal.

1           9.     The integrated circuit of claim 1, wherein said time-varying input signal is  
2 an analog signal.

1           10.    The integrated circuit of claim 1, wherein said parameter of said time-  
2 varying signal that is modified by said processing circuitry is programmable.

1           11.    The integrated circuit of claim 1, wherein said processing circuitry  
2 comprises an input buffer and an output buffer.

1           12.    The integrated circuit of claim 1, further comprising at least one passive  
2 element for providing programmability to said at least one intermediate voltage.

1           13.    The integrated circuit of claim 12, wherein said at least one passive  
2 element is a peripheral passive element.

1           14.    The integrated circuit of claim 1, wherein said DC to DC converter is  
2 switched capacitor based.

1           15.    The integrated circuit of claim 1, wherein said integrated circuit further  
2 comprises a plurality of outputs, wherein an output voltage level a first of said outputs is  
3 greater than an output voltage level of a second of said outputs.

1           16.    The integrated circuit of claim 1, wherein said output voltage of said first  
2 output is a DC voltage greater than said supply voltage.

1           17.    A circuit board, comprising: ~  
2 a plurality of integrated circuits disposed on said board, said plurality of  
3 integrated circuits requiring a plurality of voltage levels and signals for operation; and  
4 an integrated power supply circuit disposed on said board, said integrated power  
5 supply circuit comprising:  
6 at least one DC to DC converter for receiving a supply voltage and  
7 producing at least one intermediate voltage, at least one of said intermediate  
8 voltages having a greater voltage level than said supply voltage;  
9 processing circuitry for receiving at least one time-varying input signal and  
10 modifying a parameter of said time-varying signal to produce a modified time-  
11 varying signal; and

12                   a plurality of outputs, wherein an output voltage level a first of said outputs  
13           is greater than an output voltage level of a second of said outputs.

1           18.    The circuit board of claim 17, wherein said processing circuitry further  
2   receives said intermediate voltage having a greater voltage level than said supply  
3   voltage.

1           19.    The circuit board of claim 17, wherein said parameter is selected from the  
2   group consisting of a voltage level and a frequency.

1           20.    The circuit board of claim 17, wherein said modification is selected from  
2   the group consisting of increasing said parameter and decreasing said parameter.

1           21.    The circuit board of claim 17, wherein said processing circuitry comprises  
2   digital circuitry.

1           22.    The circuit board of claim 17, wherein said processing circuitry comprises  
2   analog circuitry.

1           23.    The circuit board of claim 17, wherein said processing circuitry comprises  
2   analog and digital circuitry.

1           24.    The circuit board of claim 17, wherein said time-varying input signal is a  
2   digital signal.

1           25.    The circuit board of claim 17, wherein said time-varying input signal is an  
2   analog signal.

1           26.    The circuit board of claim 17, wherein said parameter of said time-varying  
2   signal that is modified by said processing circuitry is programmable.

1           27.    The circuit board of claim 17, wherein said processing circuitry comprises  
2   an input buffer and an output buffer.

1           28.    The circuit board of claim 17, further comprising at least one passive  
2   element for providing programmability to said at least one intermediate voltage.

1           29.    The circuit board of claim 28, wherein said at least one passive element is  
2   a peripheral passive element.

1           30.    The circuit board of claim 17, wherein said DC to DC converter is switched  
2   capacitor based.

1           31.    The circuit board of claim 17, wherein said output voltage of said first  
2   output is a DC voltage greater than said supply voltage.